**Business understanding**

Nowadays, online news reading has become a part of daily life for most of us. There are all kinds of news articles from millions of sources around the world on the news websites, sometimes it would become difficult to find the news that you are interested in. Suppose you are a developer for a news website, and you want to give the readers some recommendations based on the kind of articles they have read before. In this way, it would make the readers more convenient to find what they want to read. For a specific reader, you, as a developer, have the access of what articles this reader has read before, then giving these articles to us, we can use our model to predict what kind of news of these articles belong to, which will give you an estimate of what this reader is interested in and you can offer recommendations to him/her based on that.

**Metric**

In this lab, we are using F1 score as the metric to evaluate our algorithm’s performance. The goal of our model is to predict what kind of news of the given article belongs to. We want to predict the kind of a given article precisely, so that the website can give proper recommendations to readers, otherwise the recommendations would become disordered which may make the website lose lots of viewers. Both false positives and false negatives will make our model less accurate, since they both mean that we are predicting something wrong. So, we want to make sure that both of them are relatively low, and F1 score is appropriate. Since there are no obvious class imbalance in our dataset, and we treat all the classes equally, F1 with micro would be better for our model evaluation.